4.3.3.2.2.3 *Air Quality and Noise*

Construction and operation of the deep borehole complex would generate criteria and toxic/hazardous pollutants. To evaluate the air quality impacts, criteria and toxic/hazardous concentrations from this facility have been compared with Federal standards. Impacts for radiological airborne emissions are discussed in Section 4.3.3.2.2.9.

Noise impacts during either construction or operation are expected to be low. Air quality and noise impacts for this facility are described separately. Supporting data for the air quality and noise analysis are presented in Appendix F.

AIR QUALITY

Construction and operation of the facility would result in the emission of some pollutants for the generic sites. Emissions would typically not exceed Federal, State, or local air quality regulations or guidelines.

The principal sources of emissions during construction include the following:

- Fugitive dust from land clearing, site preparation, excavation, wind erosion of exposed ground surfaces, and possible operation of a concrete batch plant
- Exhaust and road dust generated by construction equipment, vehicles delivering construction materials, and vehicles carrying construction workers

The PM_{10} and TSP concentrations are expected to increase during the peak construction period. Appropriate control measures would be followed. It is expected the site will continue to comply with applicable Federal and State ambient air quality standards during construction.

Emission rates for operation of the deep borehole complex are presented in Table F.1.3–8. Air pollutant emissions sources associated with operations include the following:

- Operation of boilers for space heating
- Operation of diesel generators and periodic testing of emergency diesel generators
- [Text deleted.]

During operation, impacts with respect to the concentrations of criteria and toxic/hazardous air pollutants are expected to be in compliance with Federal, State, and local air quality regulations or guidelines. The estimated pollutant concentrations for operation of this facility plus the No Action concentrations are presented in Table 4.3.3.2.2.3–1.

NOISE

The location of the facilities associated with the deep borehole complex relative to the site boundary and sensitive receptors was examined to evaluate the potential contribution to noise levels at these locations and the potential for onsite and offsite noise impacts. Noise sources during construction may include heavy-construction equipment and increased traffic. Increased traffic would occur onsite and along offsite major transportation routes used to bring construction material and workers to the site.

Non-traffic noise sources associated with operation of these facilities include ventilation systems, cooling systems, material handling equipment, drilling rigs, pumps, and generators. These noise sources are assumed to

Table 4.3.3.2.2.3–1. Estimated Operational Concentrations of Pollutants and Comparison With Most Stringent Regulations or Guidelines—Deep Borehole Complex and No Action Alternative—Immobilized Disposition Alternative

Pollutant	Averaging Time	Most Stringent Regulation or Guideline[a] ($\mu g/m^3$)	Generic Site ($\mu g/m^3$)[b]
Criteria Pollutants			
Carbon monoxide	8-hour	10,000	72.20
	1-hour	40,000	103.10
Lead	Calendar Quarter	1.5	[c]
Nitrogen dioxide	Annual	100	28.78
Ozone	1-hour	235	[d]
Particulate matter less than or equal to 10 microns in diameter	Annual	50	10.41
	24-hour	150	41.64
Sulfur dioxide	Annual	80	2.57
	24-hour	365	10.28
	3-hour	1,300	23.13
Hazardous and Other Toxic Compounds[e]			
[Text deleted.]			

[a] The Federal standards are presented.

[b] The concentration represents the alternative contribution only. No Action concentrations at a generic site cannot be determined since there is a range of possible pollutants and conditions that could be found at a potential site.

[c] No sources of this pollutant have been identified.

[d] Ozone, as a criteria pollutant, is not directly emitted or monitored by the sites. See Section 4.1.3 for a discussion of ozone-related issues.

[e] Emissions of unspecified hydrocarbons were not modeled.

Note: Concentrations are based on site contribution and do not include the contribution from non-facility sources.

Source: 40 CFR 50; LLNL 1996h.

be located at sufficient distance from offsite areas that the contribution to offsite noise levels would continue to be small. It is assumed that due to the size of the sites, noise emissions from construction equipment and operations activities would not be expected to cause annoyance to the public. Some noise sources may result in impacts, such as disturbance of wildlife.